Pranav Minasandra

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Max Planck Institute of Animal Behavior,
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Interests

I am keen on developing and testing novel theories of behaviour in animals and developing methods to answer behavioural questions in creative ways. Particularly, I am interested in the dynamics of behaviour at the fine-scale, and how these dynamics are related to collective or social behaviour.

Education

Max Planck Institute of Animal Behaviour, Konstanz, Germany — 2020 - now
PhD - International Max Planck Research School of Organismal Biology

Indian Institute of Science (IISc), Bengaluru, India — 2015 - 2020
- Master of Science in Biology
- Bachelor of Science (Research) with a major in Biology

Publications

1. **Minasandra**, **P.**, Jensen, F. H., Gersick, A. S., Holekamp, K. E., Strauss, E. D. & Strandburg-Peshkin, A. Accelerometer-based predictions of behaviour elucidate factors affecting the daily activity patterns of spotted hyenas. *Royal Society Open Science* **10,** 230750. doi:10.1098/rsos.230750 (2023).
2. **Minasandra**, **P.**, Grout, E. M., Crofoot, M. C., Demartsev, V., Gersick, A. S., Hirsch, B. T., Holekamp, K. E., Johnson-Ulrich, L., Nayak, A., Ortega, J., *et al.* Behavioral sequences across multiple animal species in the wild share common structural features. *bioRxiv,* 2024–01. doi:10.1101/2024.01.20.576411 (2024).
3. Grout, E. M., Ortega, J., **Minasandra**, **P.**, Quin, M. J., Crofoot, M. C., Strandburg-Peshkin, A. & Hirsch, B. T. Whole Group Tracking Reveals That Relatedness Drives Consistent Subgrouping Patterns in White-Nosed Coatis. doi:10.1101/2023.12.14.571650 (2023).
4. Kunjar, S., Strandburg-Peshkin, A., Giese, H., **Minasandra**, **P.**, Sarkar, S., Jolly, M. K. & Gradwohl, N. Link updating strategies influence consensus decisions as a function of the direction of communication. *Royal Society Open Science* **10,** 230215. doi:10.1098/rsos.230215 (2023).
5. **Minasandra**, **P.** & Isvaran, K. Truncated power-law distribution of group sizes in antelope. *Behaviour* **157,** 541–558. doi:10.1163/1568539X-bja10012 (2020).

Awards and fellowships

DAAD - Graduate Student Scholarship Programme — 2020 - now
Nominated after evaluation of my proposal
€1200 per month for 4 years, as well as additional costs

Kishore Vaigyanik Protsahan Yojana — 2015 - 2020
All India Rank : 135
Includes stipend and contingency

Mentorship

Amlan Nayak
Master thesis: Spatial variation of vigilance in meerkats.

Ananya Passi
Summer research: Mathematical modelling of habitat use and population dynamics.

Teaching

Introduction to Git
Biannual workshop offered at the MPI of Animal Behavior.

Introduction to remote code servers like GitHub
Biannual workshop offered at the MPI of Animal Behavior.

Teaching Assistantship 2019
For the course *Quantitative Ecology: Research Design and Inference*
Assisted with coding in R, conducted several classes, graded assignments, managed course website.

Contributed talks

Descriptive & Normative Models of Collective Behaviour 2022
School of Mathematics, University of Leeds
"Looking into hyena daily activity patterns using accelerometers"

Animal Behaviour Society - Virtual Seminar 2021 2021
"Behavioural classifier provides insights into spotted hyena behaviour"

Technical skills

Programming languages and related
Python, Julia, R, Bash, LaTeX, and C. HTML, CSS, and git.

Specialised computational skills
Parallel processing; Machine learning; Front-end development in `R Shiny`; Agent-based models.

Mathematical modelling
Models incorporating spatial and stochastic variables; Non-linear dynamics, including population dynamics and evolutionary dynamics; Probability models; Numerical simulations of all the above.

References

Dr Ariana Strandburg-Peshkin,
Max Planck Institute of Animal Behavior
astrandburg@ab.mpg.de

Dr Alex L Jordan,
Max Planck Institute of Animal Behavior
ajordan@ab.mpg.de

Dr Kavita Isvaran,
Indian Institute of Science
kavita@iisc.ac.in

Prof Meg Crofoot,
Max Planck Institute of Animal Behavior
mcrofoot@ab.mpg.de